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| 09/690,010 | 10/17/2000 | Hideaki Yamanaka | 198435US2 | 1829 |

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EXAMINER

PHAN, TAM T

ART UNIT PAPER NUMBER

2144

DATE MAILED: 03/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/690,010

Applicant(s)

YAMANAKA ET AL.

Examiner

Tam (Jenny) Phan

Art Unit

2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2003.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-16 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 17 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-16 are presented for examination.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
3. The effective filing date for the subject matter defined in the pending claims in this application is 01/31/2000.

Information Disclosure Statement

4. An initialed and dated copy of Applicant's IDS form 1449, Paper No. 3, is attached to the instant Office action.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5, 8, 9-13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Touma et al. (U.S. Patent Number 6,288,809), hereinafter referred to as Touma, in view of Matsunaga et al. (U.S. Patent Number 6,434,164), hereinafter referred to as Touma.
7. Touma disclosed a digital content downloading system using a network in which digital content possessed by a digital content retailer is downloaded to one of a plurality of consumers through a network, comprising a plurality of subscriber lines which each are formed of an optical fiber and are arranged between the consumers and the network managed by a network operator;

an optical line terminator, arranged on a side of the network, for terminating one subscriber line on the network side; an optical network unit, arranged on a side of each consumer, for terminating one subscriber line on the consumer side; a star coupler for connecting the subscriber lines terminated by the optical network units to the subscriber line terminated by the optical line terminator (Abstract, Figures 1, 5, 8, 10, 12-13, 16, column 1 lines 11-29, column 4 lines 60-67, column 5 lines 28-44).

8. Touma taught the invention substantially as claimed. However, Touma did not expressly teach a resource reservation server for reserving a particular bandwidth for the digital content in the subscriber lines in response to a request by a particular consumer; and downward bandwidth managing means, arranged in the optical line terminator, for controlling the downloading of the digital content from the digital content retailer to the optical network unit of the particular consumer to transmit the digital content through the subscriber lines and the star coupler at the particular bandwidth reserved by the resource reservation server.

9. In an analogous art, Matsunaga disclosed digital content downloading system such as passive optical star network comprising a resource reservation server for reserving a particular bandwidth for the digital content in the subscriber lines in response to a request by a particular consumer; and downward bandwidth managing means, arranged in the optical line terminator, for controlling the downloading of the digital content from the digital content retailer to the optical network unit of the particular consumer to transmit the digital content through the subscriber lines and the star coupler at the particular bandwidth reserved by the resource reservation server (Figures 2, 4, 7, 11, and 13, column 10 lines 26-34).

10. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the system of Touma with the teaching of Matsunaga to include the bandwidth reservation feature in order to guarantee quality of service in the downstream and upstream channel (Figure 1, column 1 lines 52-57) since services such as audio and video transmission much be guaranteed (column 1 lines 52-57).

11. Regarding claim 2, Matsunaga disclosed a digital content downloading system using a network, wherein the particular bandwidth for the digital content reserved in response to the request by the particular consumer by the resource reservation server is guaranteed in a shared bandwidth of the subscriber lines (Figure 3 sign 410, Figure 13, column 1 lines 52-57).

12. Regarding claim 3, Touma and Matsunaga combined disclosed a digital content downloading system using a network, wherein the particular bandwidth for the digital content reserved by the resource reservation server in response to the request by the particular consumer is guaranteed in a first signal having a wavelength differing from that of a second signal corresponding to a shared bandwidth of the subscriber lines (Touma, column 6 lines 28-44, column 5 lines 51-64, column 6 lines 1-8; Matsunaga, column 8 lines 18-32).

13. Regarding claim 4, Touma disclosed a digital content downloading system using a network wherein the optical network unit arranged on the side of the particular consumer comprises: an optical wavelength demultiplexing unit for demultiplexing a multiplexed optical signal of a first wavelength transmitting through the subscriber line; a first optical receiving unit for receiving a plurality of optical signals of the first wavelength demultiplexed by the optical wavelength demultiplexing unit and converting the optical signals into a plurality of digital signals; a passive optical network processing unit for extracting data of the digital content from

the digital signals obtained by the first optical receiving unit; a plurality of interfaces, connected to a plurality of terminals in one-to-one correspondence, for respectively transmitting data matching with the corresponding terminal to the corresponding terminal; and a destination judging and header processing unit for judging the destination of the data of the digital content extracted by the passive optical network processing unit to determine a particular terminal to which the data of the digital content is downloaded, performing a header processing for the data of the digital content to identify the content retailer, and transmitting the data of the digital content to the particular terminal through one interface corresponding to the particular terminal (Abstract, Figures 1, 4A-4B, 8, 10, column 4 lines 60-67, column 5 lines 1-27, lines 51-64, column 7 lines 15-29).

14. Regarding claim 5, Torma disclosed a digital content downloading system using a network according to claim 1, wherein the optical network unit arranged on the side of the particular consumer comprises an optical wavelength demultiplexing unit for demultiplexing a first multiplexed optical signal of a first wavelength transmitting through the subscriber line to a plurality of first optical signals of the first wavelength and demultiplexing a second multiplexed optical signal of a second wavelength transmitting through the subscriber line to a plurality of second optical signals of the second wavelength, the second multiplexed optical signal including data of the digital content of which the particular bandwidth is reserved by the resource reservation server; a first optical receiving unit for receiving the first optical signals of the first wavelength from the optical wavelength demultiplexing unit and converting the first optical signals into a plurality of first digital signals; a second optical receiving unit for receiving the second optical signals of the second wavelength from the optical wavelength demultiplexing unit

and converting the second optical signals into a plurality of second digital signals; a passive optical network processing unit for extracting the data of the digital content from the second digital signals obtained by the second optical receiving unit; a plurality of interfaces, connected to a plurality of terminals in one-to-one correspondence, for respectively transmitting data matching with the corresponding terminal to the corresponding terminal; and a destination judging and header processing unit for judging the destination of the data of the digital content extracted by the passive optical network processing unit to determine a particular terminal to which the data of the digital content is downloaded, performing a header processing for the data of the digital content to identify the content retailer, and transmitting the data of the digital content to the particular terminal through one interface corresponding to the particular terminal (Abstract, Figures 1, 4A-4B, 8, 10, column 4 lines 60-67, column 5 lines 1-27, lines 51-64, column 7 lines 15-29, column 10 lines 30-45).

15. Regarding claim 8, Matsunaga disclosed a digital content downloading system using a network, wherein the digital content is a music file, a video file or a game software title (column 1 lines 14-24, lines 52-57).

16. Regarding claims 9-13 and 16, the limitations of these claims correspond directly to the system of claims 1-5 and 8, and thus these claims are rejected using the same rationale.

17. Since all the limitations of the claimed invention were disclosed by the combination of Touma and Matsunaga, claims 1-5, 8, 9-13, and 16 are rejected.

18. Claims 6-7 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Touma et al. (U.S. Patent Number 6,288,809), hereinafter referred to as Touma, in view of

Matsunaga et al. (U.S. Patent Number 6,434,164), hereinafter referred to as Touma, and further in view of Sawyer (U.S. Patent Number 5,828,737).

19. Regarding claim 6, Touma disclosed a digital content downloading system using a network in which digital content possessed by a digital content retailer is downloaded to one of a plurality of consumers through a network, comprising a plurality of subscriber lines which each are formed of an optical fiber and are arranged between the consumers and the network managed by a network operator; an optical line terminator, arranged on a side of the network, for terminating one subscriber line on the network side; an optical network unit, arranged on a side of each consumer, for terminating one subscriber line on the consumer side; a star coupler for connecting the subscriber lines terminated by the optical network units to the subscriber line terminated by the optical line terminator (Abstract, Figures 1, 5, 8, 10, 12-13, 16, column 1 lines 11-29, column 4 lines 60-67, column 5 lines 28-44). Matsunaga disclosed digital content downloading system such as passive optical star network comprising a resource reservation server for reserving a particular bandwidth for the digital content in the subscriber lines in response to a request by a particular consumer; and downward bandwidth managing means, arranged in the optical line terminator, for controlling the downloading of the digital content from the digital content retailer to the optical network unit of the particular consumer to transmit the digital content through the subscriber lines and the star coupler at the particular bandwidth reserved by the resource reservation server (Figures 2, 4, 7, 11, and 13, column 10 lines 26-34).
20. The combination of Touma and Matsunaga taught the invention substantially as claimed. However, Touma and Matsunaga did not teach a digital content downloading system using a network, wherein the content retailer charges the particular consumer for the downloading of the

digital content according to the particular bandwidth reserved by the resource reservation server, a time period used for the downloading or a time zone used for the downloading.

21. Matsunaga suggested exploration of art and/or provided a reason to modify the digital content downloading using network with the bandwidth billing feature for subscriber services (Title, column 1 lines 52-56).

22. Sawyer disclosed a digital content downloading system using a network, wherein the content retailer charges the particular consumer for the downloading of the digital content according to the particular bandwidth reserved by the resource reservation server, a time period used for the downloading or a time zone used for the downloading (Title, Abstract, Figures 1 and 3B, column 1 lines 2 lines 1-5, 7-18, column 4 lines 6-32, column 5 lines 29-54).

23. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the combined system of Touma and Matsunaga with the teaching of Sawyer to include the bandwidth billing feature in order to accurately charge the subscriber (Sawyer, column 1 lines 54-67) since charging users for access to and the use of the communication system is an important concern for the service providers (Sawyer, column 4 lines 6-13).

24. Regarding claim 7, Sawyer disclosed a digital content downloading system using a network, wherein information of charges corresponding to a bandwidth used for the downloading of data including the digital content, a time period used for the downloading of data including the digital content or a time zone used for the downloading of data including the digital content is transmitted from the network operator to the consumers (Title, Abstract, Figures 1 and 3B, column 1 lines 2 lines 1-5, 7-18, column 4 lines 6-32, column 5 lines 29-54, column).

25. Regarding claims 14-15, the limitations of these claims correspond directly to the system of claims 6-7, and thus these claims are rejected using the same rationale.

26. Since all the limitations of the claimed invention were disclosed by the combination of Touma and Matsunaga, claims 6-7 and 14-15 are rejected.

Conclusion

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Zadikian et al. (U.S. Patent Number 6,631,134) disclosed a method for allocating bandwidth in an optical network. The method begins by accepting a request from an end-user, who requests a virtual path between the network nodes. The virtual path has a bandwidth requirement and the service provider determines an amount of bandwidth available between the network nodes. The service provider then allocates at least a portion of the amount of bandwidth available between the network nodes equal to the bandwidth requirement.

b. Karasawa (U.S. Patent Number 6,091,740) disclosed a bandwidth management method in a communication system such as the passive optical network. The invented communication system comprises the invented communication apparatus, a star coupler coupled to the communication apparatus by the shared communication channel, and a plurality of network units independently coupled to the star coupler.

c. Kim et al. (U.S. Patent Number 6,445,472) disclosed a wavelength division multiplexed optical network fiber subscriber network. In the network, a central office allocates a unique combination of optical wavelengths to a subscriber upon receipt of a

service request signal from the subscriber, wavelength division multiplexes requested information together with the combined optical wavelength and the transmits the wavelength, division multiplexed optical wavelength through an optical fiber. A plurality of optical subscriber devices optically distributes, filters and combines the wavelength division multiplexed optical signals received through the optical fiber to select optical wavelengths allocated thereto, and outputs the selected optical wavelengths to corresponding subscriber terminals.


28. Refer to the enclosed PTO-892 for details and complete listing of other pertinent prior art of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam (Jenny) Phan whose telephone number is (703) 305-4665. The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Harvey can be reached on (703) 305-9705. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

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